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Dec 12, 2001

DERWENT-ACC-NO: 2002-068391
DERWENT-WEEK: 200238
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TITLE: Selective removal of an overlay or diffusion coating from a metal substrate involves using an aqueous composition containing an acid that includes fluorine and silicon, germanium, titanium, zirconium, aluminum or gallium

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PATENT-ASSIGNEE:

ASSIGNEE

GENERAL ELECTRIC CO

CODE

GENE

PRIORITY-DATA: 2000US-0591531 (June 9, 2000)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
EP 1162286 A1	December 12, 2001	E	012	C23F001/44
KR 2001111044 A	December 15, 2001		000	C09D009/00
JP 2002053985 A	February 19, 2002		025	C23F001/28

DESIGNATED-STATES: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
EP 1162286A1	May 31, 2001	2001EP-0304773	
KR2001111044A	June 8, 2001	2001KR-0031993	
JP2002053985A	June 8, 2001	2001JP-0173362	

INT-CL (IPC): C09 D 9/00; C22 C 19/00; C23 F 1/00; C23 F 1/20; C23 F 1/28; C23 F 1/44; F01 D 5/00; F01 D 5/28; F01 D 25/00; F02 C 7/00

ABSTRACTED-PUB-NO: EP 1162286A

BASIC-ABSTRACT:

NOVELTY - Selective removal of at least one coating from the surface of a substrate involves contacting the coating with an aqueous composition that includes an acid of formula H_xAF₆, where A is selected from Si, Ge, Ti, Zr, Al and Ge, and x is 1-6.

DETAILED DESCRIPTION - Preferred Features: The aqueous composition may include an additional acid selected from phosphoric acid, nitric acid, sulfuric acid, hydrochloric acid, hydrofluoric acid, hydrobromic acid, hydroiodic acid, acetic acid, perchloric acid, phosphorus acid, phosphinic acid, alkyl sulfonic acids, and their mixtures. Phosphoric acid present at a level of 0.6-5M is preferred.

INDEPENDENT CLAIMS are given for:

(a) a method for the removal of a coating material from the surface of a metallic

substrate using an aqueous composition including an acid of formula H_xAF_6 or its precursors, where A is elected from Si, Ti and Zr and x is 1-3, and, optionally, at least one additional acid selected from phosphoric acid, nitric acid, sulfuric acid, hydrochloric acid, hydrofluoric acid and their precursors, at a level of 0.1-20M; and

(b) the aqueous composition including the acid of formula H_xAF_6 or its precursors, where A is selected from Si, Ge, Ti, Zr, and Ga, x is 1-6, the acid being present in the composition at a level of 0.05-5M.

USE - Removal of overlay or diffusion coatings on a metal substrate, e.g., a superalloy component such as a gas turbine component.

ADVANTAGE - Substantially all the coating material can be removed without attacking the substrate. The generation of hazardous fumes is reduced. Coating material located in indentations and hollows in the substrate is removed more reliably.

CHOSEN-DRAWING: Dwg.0/0

TITLE-TERMS: SELECT REMOVE OVERLAY DIFFUSION COATING METAL SUBSTRATE AQUEOUS COMPOSITION CONTAIN ACID FLUORINE SILICON GERMANIUM TITANIUM ZIRCONIUM ALUMINIUM GALLIUM

DERWENT-CLASS: M14 Q51 Q52

CPI-CODES: M14-A03;

SECONDARY-ACC-NO:

CPI Secondary Accession Numbers: C2002-020605

Non-CPI Secondary Accession Numbers: N2002-050647